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SUBJECT: EVALUATION OF MATERIAL FROM TEST MISSIONS

GT 331/65 AND 332/65

1. TWO ROLLS OF NONSPROCKETED 35MM NEGATIVES IDENTIFIED AS T-35 TEST MATERIAL WERE RECEIVED FOR EVALUATION.

2. THE TRACKERS FROM MISSIONS GT-331/65 AND GT-332/65 WERE FLOWN AT NORMAL ALTITUDES [REDACTED] ON 2 AND 3 NOV-
EMBER 1965. THE NEGATIVES CONSTITUTE COMPLETE FLIGHTS, FROM TAKE-OFFS TO LANDINGS. THE EXPOSURE WAS ADEQUATE AND THE RESOLUTION IS GOOD.

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3. THE EVALUATION OF THE MATERIAL DISCLOSED THE FOLLOWING PERTINENT INFORMATION:

A. THE MATERIAL WAS RECEIVED ON FLANGELESS PLASTIC CORES THAT ARE NOT SUITABLE FOR EQUIPMENT CURRENTLY IN USE AT [REDACTED]

B. NO DIFFICULTY WAS ENCOUNTERED PLOTTING THE MATERIAL ON 1:1,000,000 WAC CHARTS. IF THE CAMERA BECOMES OPERATIONAL A TEMPLATE WILL BE MADE TO ASSIST IN THE PLOTTING.

C. THE MAJOR DETERIMENT IS THE TREMENDOUS LOSS OF IMAGE ACUITY ALONG THE EDGES OF THE FORMAT (FORE AND AFT). IT WAS NOTED THAT

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	ADMIN
	SEC BR
	P & DS
	CSD
	IPD
	PD
	PSD
	PSD-ICB
345	TID
	IAD
	PAG
	DIAXX-4
	SPAD
	NSA-LO
	CIA-AP

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MISSION GT-331/65 WAS EXPOSED THROUGH AN F/2.8 APERTURE AND GT-332/65 THROUGH AN F/2.55 APERTURE. THIS MINOR DIFFERENCE IS NOT SUFFICIENT TO DETECT WHETHER A SMALLER APERTURE WILL IMPROVE THE RESOLUTION IN THESE AREAS. IF THE OPTICAL SYSTEM HAS THE RESOLUTION CAPABILITIES IT MUST THEN BE ASSUMED THAT THE EDGES OF THE FILM WERE NOT WITHIN THE LIMITS OF THE DEPTH OF FOCUS. THE RESOLUTION IS NOT CONSISTENT FROM FRAME TO FRAME EVEN IN THE CENTER OF THE FORMAT. SLIGHT SMEARING, ALONG THE LINE OF FLIGHT, CAN BE DETECTED IN APPROXIMATELY 5 PERCENT OF THE MISSION. THE SMEARING IS SLIGHT AND THE OVERLAP BETWEEN FRAMES IS SUFFICIENT TO MINIMIZE ANY LOSS OF INFORMATION. THE SMEARING CAN ONLY BE DETECTED WITHIN AN AREA 1.0" FROM THE CENTER OF THE FLIGHT LINE.

D. THERE ARE PLUS DENSITY STREAKS ALONG THE LONGITUDINAL AXIS OF THE NEGATIVES APPROXIMATELY 3/16" FROM THE LEADING EDGE (AFT IN THE VEHICLE) OF THE FORMAT. THESE APPEAR TO BE CAUSED BY A KINK OR WRINKLE IN THE FILTER EMPLOYED ON THIS MISSION OR AN EXTREMELY RAGGED EDGE ON THE SLIT EMPLOYED.

E. HIGHLY REFLECTIVE OBJECTS (WATER, ETC.) PRODUCE A MAXIMUM DENSITY AREA WITH PLUS DENSITY STREAKS EXTENDING ON BOTH SIDES IN THE SCAN DIRECTION OF TRAVEL. THIS SAME PHENOMENON HAS BEEN OBSERVED IN MATERIAL USING SIMILAR FORMATS AND EXPOSURE TECHNIQUES.

F. THERE IS AN UNEXPLAINABLE ISOLATED PLUS DENSITY OVAL AREA APPROXIMATELY 1/2" IN DIAMETER LOCATED ALONG THE LEADING EDGE OF THE FORMAT ON ONE FRAME OF PHOTOGRAPHY 3/4 OF THE WAY THROUGH GT-332/65.

4. THE PRODUCT FROM THIS CAMERA COMPARES FAVORABLY WITH OTHER

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TRACKERS USED IN THIS VEHICLE. TRACKERS ARE A VALUABLE AID WHEN USED IN CONJUNCTION WITH LONG FOCAL LENGTH CAMERAS AND WILL BE INVALUABLE IF FOCAL LENGTHS ARE EXTENDED BEYOND 36 INCHES.

5. IT IS RECOMMENDED THAT A METHOD FOR LOCATING THE CENTER OF FORMAT BE INCORPORATED INTO THIS CAMERA SYSTEM IF FEASIBLE. SUCH AN INDICATOR WOULD GREATLY ASSIST BOTH THE PLOTTING OF THE VEHICLE TRACK AND APPROXIMATING THE VEHICLE ATTITUDE.

6. THE PHOTOGRAPHS THAT WERE REQUESTED ARE ON ORDER AND WILL BE DELIVERED WHEN COMPLETED.

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-END OF MESSAGE-